

1 TITLE OF THE INVENTION

2 **STAIRWAY CONSTRUCTION**

3 **FIELD OF THE INVENTION**

4 This invention relates to a device that simulates the edge of the tread of a step and the  
5 trim used with it.

6 **BACKGROUND OF THE INVENTION**

7 Builders of tract homes want to give the perception of high value in the homes they build;  
8 yet they are required to spend only a finite sum of money for a particular price point home.  
9 Buyers on the other hand, want the appearance of a higher end home than the price point at which  
10 they are purchasing. This is known as perceived value.

11 In upscale homes the stairs are made with individual treads. These treads extend laterally  
12 beyond the risers to underneath the banister and its associated balusters and bottom rail. This  
13 lateral extension beyond the riser is about 1.0 inch and the forward extension beyond the riser  
14 is about 0.75 inch. See FIGURES 1 and 4.

15 In many tract and even upscale homes, many buyers prefer not to have “naked” or  
16 uncarpeted stairs, but buyers like the look of hardwoods such as maple and oak extending out  
17 under the carpeting. And those that want their stairways painted, still want the appearance of  
18 individual milled stair treads, not treads that are inset between the side panels, or stringers as they  
19 are called in the industry. Inexpensive stairway construction utilizes stock which has been  
20 subjected to a router along the front edge only and then nailed to the stringers, such that there is  
21 no overhang underneath the banister and bottom rail. These treads terminate flush with the  
22 stringer. But due to a builder’s costs constraints, rather than use high-priced hardwood as both  
23 the tread and riser, lower priced products are used such as pine, medium density fiberboard  
24 (MDF), and plywood in low-cost stairway construction. Oftentimes, these lower priced materials  
25 are used because both the risers and treads are to be covered over by carpeting as noted. Other  
26 times stairs are made with no lateral tread overhang in an effort to reduce milling costs to create  
27 the nice side edge appearance of the tread.

28 Thus a dichotomy, in that the problem existed as to how to use lower cost materials and  
29 methods to keep the price down but still satisfy the desires of buyers for a high end look.  
30 Applicant has solved that problem.

31 The invention accordingly comprises the device possessing the features properties and  
32 the relation of components which are exemplified in the following detailed disclosure and the  
33 scope of the application of which will be indicated in the appended claims.

1           For a fuller understanding of the nature and objects of the invention reference should be  
2 made to the following detailed description, taken in conjunction with the accompanying  
3 drawings.

1 SUMMARY OF THE INVENTION

2 A simulated stair tread end for attachment to a stairway whose treads are made of lower  
3 cost materials, and/or by a lower cost method, and which stair tread end when mounted projects  
4 laterally outwardly under the banister and bottom rail of stairway. The device may be made of  
5 medium density fiberboard or from hardwood or other wood substitute as may be desired. The  
6 device has an upper horizontal portion and a lower vertical portion fastened to each other to form  
7 the device which is then nailed into position onto a "stringer" - the saw-toothed plank that forms  
8 the basis of the stair set, to simulate the appearance of the tread extending beyond the banister  
9 and bottom rail instead of terminating flush with the stringer.

10 It is a first object to provide a tread end that is attachable to a low-cost inset construction  
11 stair, to create the appearance of the use of individual milled plank stair treads.

12 It is a second object to provide an easy to attach stair tread end.

13 It is third object to provide a stained wood tread end for use with low-end material stairs  
14 having carpet thereon.

15 It is a fourth object to provide a stair tread and under trim for use with low-cost  
16 production stairways to create eye appeal.

17 Other objects of the invention will in part be obvious and will in part appear hereinafter.  
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1 BRIEF DESCRIPTION OF THE FIGURES

2 FIGURE 1 is a front perspective view of the article of this invention.

3 FIGURE 2 is a rear perspective view of the article of this invention.

4 FIGURE 3 is a rear and side perspective view of several of the inventive articles mounted  
5 into their in-use position.

6 FIGURE 4 is a top rear perspective view of the instant device mounted into position prior  
7 to rug addition.

8 FIGURE 5 is close-up rear perspective view of a portion of one of the instant devices  
9 mounted into position prior to rug installation.

10 FIGURE 6 is a front perspective view of several of the instant devices in mounted  
11 position with carpet installed.

12 FIGURE 7 is a diagrammatic illustration of the construction of a conventional stairway  
13 with the nomenclature set forth for reference use in the reading of this application.

14 FIGURE 8 is a front perspective view of a second embodiment of this invention.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

### INTRODUCTION

In the conventional approach to building a stairway, the layout shown in the prior art view of FIGURE 7 is utilized. Each of the parts of the conventional stairway is called out by name. This conventional mode of construction utilizes a pair of stringers, each of which is an elongated plank of wood with a series of offset Z-shaped surfaces, each Z-shape is one horizontal surface and one vertical surface. These stringers are generally each attached to a respective rectangular piece of 1 x 12 inch wood designated "plate", the pair of plates being spaced apart a finite distance approximately equal to the width of the stairway to be constructed. This is the framework for the stairway. In a high-end installation, individual treads used horizontally and individual risers used vertically are then installed in a conventional manner as by nailing or highspeed stapling.

As is known in the art, treads have milled forward edges and milled outer edges. Much of this milling is labor intensive. The purpose of the device of this invention is to achieve the same look as hand milled or routed treads with accompanying trim, but by using a lower cost production mode and in some cases lower cost materials.

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### THE INVENTION

Reference is now made to FIGURES 1 and 2 wherein front and rear elevational views of the device 10 of this invention are seen. The device 10 is formed of two members, a generally horizontal first member 11, and a generally vertical second member 12. These may also be referred to as the upper member 11, and the lower member 12. For the purpose of reference to the device, the vantage point taken is along side of the stairway, not in front ready to walk up the stairway. Thus the long surface that faces the viewer from this vantage point shall be referred to as the front face, while the narrow edges that are rounded or otherwise milled shall be referred to as the side edges. Side edges here but front edge when one climbs the stairs.

The lower member is preferably a rectangular solid 12, which has a rear surface 14 seen in FIGURE 2, a front surface 16 seen in FIGURE 1, a right side edge 22 and a left side edge 18. For the reason stated above, the numbers 18 and 22 are shown in reversed positions in FIGURE 2 as contrasted with FIGURE 1. The undersurface of the vertical member 12 is designated 20. Lower member 12 may be made of hardwood such as maple, birch or oak, or paint grade woods such as pine and fir, or MDF, which is also a paint grade building material, or even molded

1 plastic such as styrene or polypropylene, or some other wood substitute as may be desired. The  
2 lower member is generally made with a thickness of about 0.25 to 0.50 inch.

3 The upper member 11 has a top surface 13, denoted in FIGURE 2, a front surface 21,  
4 usually chamfered and denoted in FIGURE 1, a right side surface or nosing 23 as it is known in  
5 the art and designated in FIGURE 3 which may be routed, or otherwise formed in a decorative  
6 configuration of one's choosing, The upper member 11 also a left side surface 25, which may be  
7 either vertically straight as shown here and designated 25A at the uppermost step of the stairway  
8 adjacent a wall, or milled with a chamfer as may be desired. The left side surface for intermediate  
9 steps is preferably milled.

10 The front surface which lies between the two side surfaces is designated 27 may also be  
11 milled. The upper member bottom surface 21 is shown in FIGURE 1. The rear surface 15 has two  
12 aspects to it and appears different from the front surface, which appears to be, and is of one  
13 elevation. Rear surface 15 has a center elongated zone 29 to which are attached a pair of spaced  
14 downward depending sections 17 which are formed integrally with the elongated zone 29.  
15 Contrast the view from the front with the view from the back.

16 A recess 19 is inwardly formed about  $\frac{1}{4}$  to  $\frac{1}{2}$  inch or more deep between the two sections  
17 17 and extends about  $\frac{1}{2}$  inch upwardly from the bottom surface thereof, for the receipt and  
18 attachment of the lower member as will be discussed below. The depth of the recess is set as the  
19 depth that will match the thickness of the upper member such that the upper member will fit  
20 within the confines of the recess and extend downwardly therefrom flush on its rear surface with  
21 the rear surface of the upper member. This recess can be seen in FIGURE 2 as can the flush fit  
22 of the lower member into the upper member.

23 It is to be noted that the lateral extension of the lower member is less than the lateral  
24 extension of the upper member as the lower member is disposed within the recess 19 of the upper  
25 member. See FIGURES 1 and 2.

26 In FIGURE 3, designator 60 is the sheet of drywall overlaid on the stringer the bottom  
27 edge of which is shown in dashed line 30 disposed beneath said drywall sheet 60.

28 In FIGURE 3, four of these devices are shown attached to a low budget stairway having  
29 only four stairs thereon. Here it is noted that the highest elevation unit has a left side surface  
30 according to the nomenclature of FIGURES 1 and 2, which in this view is a true rear surface that  
31 is flat and thus designated 25A. All of the other units which are not disposed spaced from a wall  
32 are designated 25 and are rounded in configuration, milled for more pleasing aesthetics.

33 A filler strip 50 made of any material such as MDF, plywood, solid, soft or hardwood,

1 plastic or other wood substitute, and of a rectangular configuration is disposed vertically  
2 commencing in vertical alignment with the front edge 22 of an upper member, above the filler  
3 strip in the trim out of the stairway. The strip 50 extends downwardly to the next adjacent tread.  
4 Each filler strip 50 is about four inches wide and may be of about  $\frac{1}{4}$  to  $\frac{1}{2}$  inch thick. The exact  
5 elevation of each filler will depend on the riser size employed in the stairway. When so disposed  
6 as in FIGURE 3, each filler strip 50 is positioned about 1 to about 3 inches from the left end 25  
7 of the tread of the device disposed below the filler strip.

8 Reference is again made to FIGURE 3 at the left surface 25A. Note the elevation  
9 difference between "false tread" 31 this difference is equal to the elevation of the upper member  
10 11, which is about 0.75 inch. The false tread 31 is used in lower cost construction stairways when  
11 the builder knows that the stairway is to be carpeted. This difference in elevation is taken up by  
12 the carpet, which will then be equal to or slightly higher than the surface 13 of the upper member  
13 11. Reference is made to FIGURE 6, which shows such carpet installation adjacent to the devices  
14 of this invention.

15 Reference is now made to FIGURE 4. This view further illustrates a lower cost  
16 construction stairway. An upper positioned false riser 32 of low priced wood or MDF is shown  
17 adjacent to a false tread 31, which is disposed between the upper false riser 32 and a lower false  
18 riser 32'. Note the drywall sheet 60 clearly visible in this view, which is taken from a vantage  
19 point on the stairway. Note how the drywall extends both above and forward of the false tread  
20 and false risers 32,32'. This is because the builder anticipates that the stairway will be carpeted,  
21 and the carpet will butt up against the drywall. As noted earlier with respect to the previous view,  
22 the device 10 is attached to the drywall above the surface of the false tread.

23 Returning momentarily to FIGURE 2 it is seen that there is a slight lateral gap, 36 and  
24 36' between the fit of the lower member 12 within the recess 19 at both the forward and rearward  
25 edge of the recess. The forward gap 36' is clearly visible in the close-up view FIGURE 5. The  
26 reason for the gap at both the forward and rearward edges of the recess 19 is due to the use of a  
27 router to create the recess 19 for lower member 12 to fit into. Due to the fact that a router uses  
28 round fits, there is some "slop" at each end of the routing operation. This "slop" is the curved  
29 gap 36, 36' at each end of the recess 19.

30 Reference is again made to FIGURE 6. Note that in this figure upper member 11 is made  
31 from a stain grade wood while the lower member is made from a paint grade material. Rarely will  
32 the two elements be reversed as to material, but such is contemplated. Here the paint grade lower  
33 member was used to blend in with the filler strip 50 for aesthetic purposes. Such a mix and match

1 is easily possible since the device 10 is made from two separate inter-disposed elements nailed  
2 to each other, or glued to each other and attached through the drywall to the stringer there  
3 beneath. The rug present is designated 75, and overlays the subflooring plywood not seen.

4 In FIGURE 8, lower section 112 is seen to be laterally coextensive with upper section  
5 111. That is, element 17 is not present as seen in FIGURE 2. Obviously no gap 36,36' is present  
6 as the routing operation produces a straight cut. There are special situations where this variant 100  
7 is to be utilized and such use will be readily understood by architects, builders and others skilled  
8 in the art.

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## 10 CONCLUSION

11 It is seen that I have created a device that provides the illusion of the presence of high-end  
12 construction stairways. The device is preferably used when the stairway be it open or closed is  
13 to be carpeted. As is seen in FIGURE 6 the illusion of carpeting over a full oak tread is seen  
14 when in fact only about 1.0 inch of it is real oak. The rest is some lower cost material beneath  
15 the carpet. This allows the builder to create a high price image at a lower price point for his  
16 stairway.

17 The exact depth from nosing to side surface of the tread aspect may vary as may be  
18 desired. The same is true for the elevation of the lower member. I have found that an inset  
19 distance of about 0.5 inch upwardly into the recess with about an 1/8 inch gap 36 and 36' gives  
20 a pleasant looking result. A total elevation of about two to three inches for the lower member  
21 gives aesthetically pleasing results.

22 By the term "milled" as used herein, it is meant that a vertical surface of a rectangular  
23 solid piece of wood or wood substitute is configured as by a router, shaper, or other tool or by  
24 a molding process such that a vertical surface has a configuration other than a flat surface at 90  
25 degrees to the horizontal. Typical of such a configuration is the rounded or chamfered upper and  
26 lower corners of a "nosing" on the front of a stair tread which in these figures is designated the  
27 right side.



1            Since certain changes may be made in the described apparatus without departing from the  
2       scope of the invention herein involved, it is intended that all matter contained in the above  
3       description and shown in the accompanying drawings shall be interpreted as illustrative and not  
4       in a limiting sense  
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